MINUTEMAN®
UNINTERRUPTIBLE POWER SUPPLIES

# ParaShield 1224

# User's Manual

**ParaShield 1224 is designed to provide a local power solution for cable telephony, wireless local loop (WLL), and fiber to the home (FTTH) broadband equipment.**

**IMPORTANT SAFETY WARNINGS**

**(SAVE THESE INSTRUCTIONS)**

This manual contains important instructions regarding the installation and operation of this device. Read this manual thoroughly before attempting to unpack, install or operate this device

**CAUTION!** The battery can energize hazardous live parts inside even when the AC input power is disconnected.

**CAUTION!** To reduce the risk of electric shock, do not remove the cover, except to service the battery. No user serviceable parts inside, except for the battery.

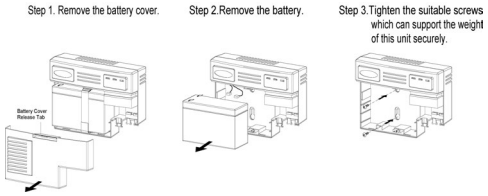
**CAUTION!** To avoid electric shock, turn off the unit and unplug it from the AC power source before servicing the battery or installing your equipment.

## INSTALLATION

**(QUALIFIED SERVICE PERSONNEL ONLY)**

Please read this manual before installing this DC UPS as it provides important information that should be followed during the installation and repair of the DC UPS:

1.) The ParaShield 1224 is intended to be installed in a temperature controlled environment that is free of conductive contaminants. Select a location which will provide good air circulation for the DC UPS at all times. Avoid locations near heating devices, water or excessive humidity, or where the DC UPS is exposed to direct sunlight. Route power cords so they cannot be walked on or damaged.
2.) Remove the cover.
3.) Remove the battery.
4.) The wall mount screws must be the appropriate size for total weight of the UPS and the mounting structural material.
5.) Connect the battery negative (Black) wire to the battery negative terminal.
6.) Connect the battery positive (Red) wire to the battery positive terminal.
7.) Re-install the battery into the case.
8.) Connect the output wires and connector to the DC UPS.
9.) Connect the Communications Signal wires to the DC UPS.
10.) Re-install the cover.
11.) See the section "Operation" for the startup procedure.




## OPERATION

1.) Plug the DC UPS power cord into the AC inlet on the DC UPS.
2.) Plug the DC UPS power cord into the wall outlet.
3.) Turn on the connected equipment.
4.) The DC UPS is ready for normal operation.

The DC UPS charges the battery when it is connected to utility power. It is recommended that the battery charge for minimum of 18 hours before use. The DC UPS may be used immediately, however, the "On Battery" runtime may be less than normally expected.

## BATTERY REPLACEMENT

**(QUALIFIED SERVICE PERSONNEL ONLY)**

This DC UPS has a hot-swappable battery. Hot-swappable battery means that the battery can be replaced without powering down the whole DC UPS system.

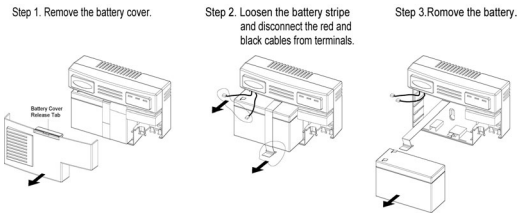
If there is a power interruption while replacing the hot-swappable battery, with the DC UPS on, the load will not be backed up.

**CAUTION!** Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.

Do not dispose of batteries in a fire. The batteries may explode. The batteries in this UPS are recyclable. Dispose of the batteries properly. The batteries contain lead and pose a hazard to the environment and human health if not disposed of properly. Refer to local codes for proper disposal requirements or return the battery to MINUTEMAN in the packing material for the new battery.

**CAUTION!** Although battery system voltages are only 12VDC the battery system can still present a risk of electrical shock. The current capability of a battery is sufficient to burn wire or tools very rapidly, producing molten metal. Observe these precautions when replacing batteries:

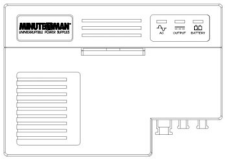
1.) Remove watches, rings, or other metal objects.
2.) Use hand tools with insulated handles.
3.) Wear protective eye gear (goggles), rubber gloves and boots.
4.) Do not lay tools or other metal parts on the top of the batteries.
5.) Disconnect the charging source before connecting or disconnecting the battery terminals.
6.) Determine if the battery is inadvertently grounded. If the battery is, remove the source of the grounding. Contact with any part of a grounded battery can result in an electrical shock. The likelihood of such shock will be reduced, if such grounds are removed during installation and maintenance.




Step 4. Connect the black cable to the battery negative terminal on the new battery.
Step 5. Connect the red cable to the battery positive terminal on the new battery.
Step 6. Install the new battery into the battery compartment.
Step 7. Tighten the battery stripe to secure the battery.
Step 8. Re-install the battery cover.
Step 9. The DC UPS is ready for normal operation.
Step 10. Dispose of the old battery properly.

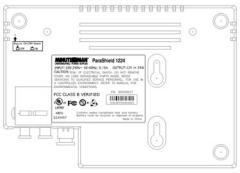
## Warning Indicator

● **Front Panel**



| Indicator | Color | Condition |
|---|---|---|
| AC | Green | DC UPS is on utility power. |
| | Yellow | DC UPS is on battery power. |
| OUTPUT | Green | DC output power is provided by the battery or utility power. |
| BATTERY | Red | The battery is not connected or the battery needs to be replaced. |

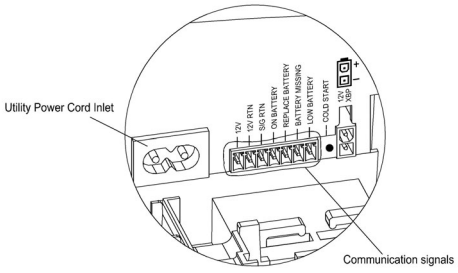
● **Back Panel**



○ Buzzer On/Off Switch: The default position of the buzzer switch is OFF. If you want to enable this function, there is a button inside the hole, please insert a paper clip or small pointed object into the hole and press the button. In case of utility failure (on battery), it will emit a long beep. In case of low battery, it will emit a short beep.

## Communication Signals

The communication signals of this unit are isolated from the internal circuitry via open collector Opto-coupled transistors. The connection "SIG RTN" (Signal Return) is a common return point for all communication signals. In the typical application, the attached equipment digital ground connects to Signal Return, and pull-up resistors turn the open collector signals into logic levels.




| Signal | Message |
|---|---|
| 12V | + Voltage output |
| 12V RTN | - Voltage output |
| SIG RTN | Signal return |
| ON BATTERY | Low when operating from utility line.<br>Open when operating from battery. |
| REPLACE BATTERY | Low when battery is charged.<br>Open when battery fails the Self Test. |
| BATTERY MISSING | Low when battery is present.<br>Open when battery is missing. |
| LOW BATTERY | Low when battery is near full charge capacity.<br>Open when operating from a battery with < 20% capacity. |

## SPECIFICATION

| Model | ParaShield 1224 |
|---|---|
| **Input** | |
| Voltage Range | 85Vac – 264Vac (Universal Input) |
| Frequency Range | 47 – 70 Hz |
| **Output** | |
| On Battery Output Voltage | 12VDC |
| Continuous Power Capability | 24Watts |
| Output Power Max | 24Watts |
| Efficiency (at 75% Load) | > 75 % |
| **Battery** | |
| Battery Type | Sealed, Maintenance Free Lead-Acid Battery |
| Numbers of Battery | 1-12V7.2AH |
| Typical Recharge Time | 18-Hours |
| Replaceable | Yes |
| **Surge Protection and Filtering** | |
| Lightning / Surge Protection | Yes |
| **Warning Diagnostics** | |
| Indicators | AC, Output, Battery |
| **Management** | |
| Auto-Charge | Yes |
| Communication Interface | On Battery, Replace Battery, Battery Missing, Low Battery |
| **Physical** | |
| Net Dimensions (L*W*D) | 16.7cm x 24cm x8.1cm |
| Net Weight (kg) | 3.28 |
| **Environment** | |
| Operating Temperature | 32°F – 104°F (0-40°C) |
| Operating Humidity | 0 – 95% noncondensing within enclosure |
| Max Operating Elevation | 10,000ft (3,000m) |
| Max Storage Elevation | 50,000ft (15,000m) |
| Storage Temperature | 5°F – 113°F (-15°C – 45°C) |

## Cold Start

The cold start feature is for applying power to the DC UPS and connected equipment when the DC UPS is off and there is no utility power. Before using the cold start feature, please make sure the battery is charged. To start the cold start feature, press the recessed cold start button with a small pointed object.

**FCC Notice:**

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and receiver. (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4) Consult the dealer or an experienced radio/TV technician for help. Any special accessories needed for compliance must be specified in the instruction.

**CAUTION:** A shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment.

**CAUTION:** Any changes or modifications not expressly approved by MINUTEMAN UPS could void the authority granted by the FCC to operate this equipment. For more information, please contact: MINUTEMAN UPS: Phone: (800) 238-7272, (972) 446-7363, Fax: (972) 446-9011, www.minutemanups.com

**LIMITED WARRANTY**

Para Systems Inc. (Para Systems) warrants this equipment, when properly applied and operated within specified conditions, against faulty materials (excluding the batteries) or workmanship for a period of three years from the date of original purchase by the end user. Para Systems Inc. (Para Systems) warrants the Batteries for a period of two years from the date of purchase. For equipment sites within the United States and Canada, this warranty covers repair or replacement of defective equipment at the discretion of Para Systems. Repair will be from the nearest authorized service center. Replacement parts and warranty labor will be borne by Para Systems. For equipment located outside of the United States and Canada, Para Systems only covers faulty parts. Para Systems products repaired or replaced pursuant to this warranty shall be warranted for the remaining portion of the warranty that applies to the original product. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase. The warranty shall be void if (a) the equipment is damaged by the customer, is improperly used, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications; (b) the equipment is repaired or modified by anyone other than Para Systems or Para Systems-approved personnel; or (c) has been used in a manner contrary to the product's operating manual or other written instructions. Any technical advice furnished before or after delivery in regard to use or application of Para Systems's equipment is furnished without charge and on the basis that it represents Para Systems's best judgment under the circumstances, but it is used at the recipient's sole risk. EXCEPT AS PROVIDED HEREIN, PARA SYSTEMS MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation of implied warranties; therefore, the aforesaid limitation(s) may not apply to the purchaser. EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL PARA SYSTEMS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, Para Systems is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, cost of substitutes, claims by third parties, or otherwise. The sole and exclusive remedy for breach of any warranty, expressed or implied, concerning Para Systems's products and the only obligation of Para Systems hereunder, shall be the repair or replacement of defective equipment, components, or parts; or, at Para Systems's option, refund of the purchase price or substitution with an equivalent replacement product. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.